REMARKS

Claims 1-22 and 24-26 are pending in the application. All claims stand rejected under various grounds as detailed below. In this Amendment:

claims 1-4 are canceled;

claims 5, 17, 19-22 and 24 are amended.

Claims 5-22 and 24-26 are pending in the application.

As a first matter, Applicant has noticed and apologizes for its previous counsel's error in misnumbering the claims—no claim was assigned claim number 23. To Applicant's knowledge, no claims were omitted from the national-phase filing, and only 25 claims were pending in the case as of the mailing date of the Office Action. For continuity, however, Applicant's new claims start with claim 27.

In addition to the preceding amendments, Applicants present the following remarks regarding the claims, the rejections, and the prior art references.

Amendment of Claims.

Claim 5 is amended herein to add the limitation that the 2,4,4'-trichloro-2'-hydroxydiphenyl ether and orthophenyl phenol are incorporated into the acrylic polymer material. This subject matter finds support in the specification at, e.g., paragraphs [0020], [0051], and [0042]-[0045]. No new matter is added.

Claim 17 is amended herein to specify that the antimicrobial acrylic polymer composition is formed by combining a quantity of 2,4,4'-trichloro-2'-hydroxydiphenyl ether and orthophenyl phenol with an acrylic polymer precursor material, rather than by combination with an already-polymerized acrylic material. This clarification comports with the disclosure at, e.g., paragraphs [0028], [0045], [0048], [0051] and original claim 20. Claims 21-22 and 24 are amended to conform with this terminology. No new matter is added.

Claims 19-22 also have been amended to remove multiple dependencies.

Claim 24 is amended to remove improper Markush-like language.

REJECTION OF CLAIMS 5-22 AND 24-26 UNDER 35 USC § 103(A).

Claims 5-22 and 24-26 stand rejected as unpatentable over WO 00/14128 in view of either (a) GB 2211093 (Broughall) or (b) USP 6395697 (Cheung et al.). The rejection is respectfully traversed, although it is believed mooted by the above amendments to the claims.

1. The WO '128 Reference.

A. The WO '128 Fails to Address Combinations .

The Examiner asserts that the WO '128 reference discloses an acrylic polymer having an antimicrobial agent is incorporated therein, and further that triclosan and ortho-phenyl phenol both are disclosed as potential antimicrobial agents.

It should be noted that the WO '128 reference fails to suggest or address the notion of combining antimicrobial agents.

B. The WO '128 Fails to Address Combinations.

Regarding the particular combination of triclosan and ortho-phenyl phenol, Applicant points out that triclosan is known to be a strong bactericide but to have poor fungicidal activity. Ortho-phenyl phenol displays good efficacy against both bacteria and fungi. Applicant's results show that plaques containing either 2000ppm ortho-phenyl phenol or 2000ppm triclosan were ineffective against *A. niger*. (Applicant's specification at paragraphs [0051]-[0060].) However, the sample piece having 2000ppm triclosan and 2000ppm ortho-phenyl phenol was efficacious against *A. niger*. This result cannot be the mere accumulated effect of the two antimicrobial agents, as triclosan is known to have poor efficacy against fungi (see Applicant's specification at paragraph [0053]).

Applicant does not follow the Examiner's reasoning that addition of a second antimicrobial agent would be for the purpose of better dispersing the first antimicrobial agent. The PHOSITA would not be inclined to combine two antimicrobial agents disclosed in WO '128 for the purpose of "provid[ing] a better (homogeneous) dispersion of said anti-microbial agents in a polymeric matrix." If seeking to improve agent dispersion, the PHOSITA would look to a dispersant or the disclosed solubilizing agent carrier system (see, e.g., WO '128 at page 4, line 28 to page 5, line 16; page 9, lines 15-21; and page 10, lines 23-27). If improved dispersion nonetheless were the goal, and the PHOSITA employed a second antimicrobial agent instead of a dispersant or an improvement to the carrier system, such efforts would constitute nothing more than undue experimentation and would have no rational relationship to synergistic combinations.

The WO '128 reference fails to provide any guidance—directly or by expression of the state of the art at the time of filing—as to the synergistic result observed when triclosan and ortho-phenyl phenol are incorporated into an acrylic polymer material. The PHOSITA would not make the leap from use of a single antimicrobial agent to use of two-agent combinations in pursuit of synergy absent undue experimentation.

As discussed below, neither the GB '093 nor Cheung '697 references supply this missing guidance. Claims 5-23 and 24-26 therefore are allowable over the cited art.

2. The GB '093 Reference.

A. The GB '093 Composition Is Not Known To Be Compatible With Incorporation Into Acrylic Polymers.

GB '093 discloses a disinfectant composition intended primarily for skin cleaning. Even if not used on the skin exclusively, the composition of GB '093 nonetheless clearly is presented as a topical disinfectant.

Critically, the GB '093 reference fails utterly to present any discussion or hint that its disclosed disinfectant composition can be incorporated into a polymer, let alone impart antimicrobial characteristics to thermoformable acrylic polymer materials. The person having ordinary skill in the art (hereinafter "PHOSITA") likewise would have no apparent reason to hold with any reasonable expectation of success that the claimed combination of triclosan and ortho-phenyl phenol could both (1) be incorporated into an acrylic polymer material and (2) confer upon that acrylic polymer material an antimicrobial property.

Claims 5-23 and 24-26 therefore are allowable over the GB '093 reference.

B. The GB '093 Reference Discloses Synergy Of Chemically And Patentably Distinct Combinations.

The GB '093 disinfectant composition is described as a synergistic combination. However, the synergy hinges upon the combination of certain antimicrobial compounds with "an amine oxide and/or dioxide type of surfactant". (See GB '093 at, e.g., page 2, lines 21-26; page 3, lines 5-7 ("The essential ingredients of the disinfectant cleaning compositions are the amine oxide and dioxide surfactants …"); page 4, lines 27-31; and page 8, lines 27-29.) In no way does the GB '093 reference inform the PHOSITA of the [triclosan + ortho-phenyl phenol] synergy observed by Applicant.

Moreover, synergy is a rare and largely unpredictable phenomenon. Nothing about the synergistic combination of "an amine oxide and/or dioxide type of surfactant" and one of a selected group of antimicrobial compounds would, of itself, guide the PHOSITA to reasonably expect a synergistic result from Applicant's recited combination of triclosan and ortho-phenyl phenol.

Claims 5-23 and 24-26 therefore are allowable over WO '128 in view of GB '093.

3. The Cheung '697 Reference.

A. The Cheung '697 Composition Is Not Known To Be Compatible With Incorporation Into Acrylic Polymers.

Cheung '697 discloses a disinfectant composition. The composition of Cheung '697 likewise does not speak to incorporation of its disinfectant composition into an acrylic polymer material. More critically, Cheung '697 is devoid of any discussion or mention of synergy. The reference offers no direct or indirect guidance to the PHOSITA in the pursuit of a synergistic antimicrobial agent combination that can be incorporated into an acrylic polymer material and confer upon that acrylic polymer material an antimicrobial property.

Claims 5-23 and 24-26 therefore are allowable over WO '128 in view of Cheung '697.

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CONCLUSION

In light of the foregoing, Applicant respectfully requests that claims 5-22 and 24-26 be advanced to allowance. If outstanding issues remain, the Examiner is urged to contact the below signed.

Respectfully submitted,

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